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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,697	07/02/2003	Kirakodu Nanjundaswamy	DCL2012/M5009	4413

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09/19/2005

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,697

Applicant(s)

NANJUNDASWAMY ET AL.

Examiner

Laura S. Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10-14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. However, upon further consideration, a new ground(s) of rejection is made in view of Sakurai et al.

Claim Rejections - 35 USC § 102

2. Claims 8, 12-13, are rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai et al. "Rechargeable Copper Vanadate Cathodes for Lithium Cell".

Sakurai et al. teaches on page 34, a Li/CuV₂O₆ cell. Sakurai et al. also teaches that the cathode material can be Cu₂V₂O₇. Sakurai et al. teaches on page 32, that the cathode mixtures comprise copper vanadate powder, Ketjen black powder as the conductive diluent and PTFE powder in a weight ratio of 70:27:3 and that the electrolyte comprises LiClO₄/PC + 1,2-dimethoxy ethylene (DME). Therefore, Sakurai et al. teaches an electrochemical cell comprising a cathode comprising CuV₂O₆, an anode comprising lithium and a nonaqueous electrolyte.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference

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as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 103

3. Claims 10-11, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. "Rechargeable Copper Vanadate Cathodes for Lithium Cell" in view of Isoyama et al. (6,093,503) or Ilic et al. (5,158,722) or Nakanishi et al. (6,096,234).

Sakurai et al. teaches the claimed invention as explained above but does not teach that the cathode further comprises a manganese dioxide or a lithiated manganese dioxide.

Isoyama et al. teaches in column 5, lines 20-35, that the positive electrode material includes carbon materials, metal oxide materials and conductive polymer materials. Preferably it comprises a metallic compound such as LiMn_2O_4 , Li_xMnO_2 , $\text{Li}_2\text{Mn}_3\text{O}_4$, $\text{Cu}_2\text{V}_2\text{O}_7$, MnO_2 , etc. The conductive agent includes carbon materials. Isoyama et al. teaches in column 34, lines 58-61, that the positive active material comprises 90% by weight of metallic compound comprising LiMn_2O_4 and 6 % by weight

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of carbon.

Ilic et al. teaches in the abstract, positive electrodes for primary and secondary cells wherein the positive active material comprising MnO₂, FeS₂, CuO, Cu₂V₂O₇ and LixMnO_y.

Nakanishi et al. teaches in column 19, lines 30-55, that the positive electrode can contain graphite, MnO₂, Cu₂V₂O₇, etc. Nakanishi et al. teaches in column 1, that the battery can be a primary or secondary cells. The active material is added in an amount of 40 wt% to 90 wt%.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use two metallic compounds such as CuV₂O₆ and MnO₂ or CuV₂O₆ and (LiMn₂O₄ or LixMnO₂ or Li₂Mn₃O₄) in the positive electrode material taught by Sakurai et al. because it is prima facie obvious to combine two compositions each of which is taught by prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose. See *In re Kerkhoven*, 205 USPQ 1069; *In re Susi*, 169 USPQ 423.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. "Rechargeable Copper Vanadate Cathodes for Lithium Cell" in view of Fujimoto et al. (5,358,805).

Sakurai et al. teaches the claimed invention as explained above except does not teach that the conductive agent is graphite.

Fujimoto et al. teaches in column 3, that it is known that the positive electrode

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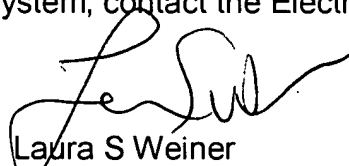
comprises an active material such as LiMn_2O_3 , MnO_2 , etc. and mixed with a binder and a conductive agent such as Ketjen Black, graphite etc.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use graphite instead of Ketjen Black as the conductive agent in the battery taught by Sakurai because Fujimoto et al. teaches that graphite is known to be a conductive agent and one would expect similar results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Laura S Weiner
Primary Examiner
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September 15, 2005